

Time:

45–60 minutes

Explore:

forces and motion, friction, inquiry process (predict, investigate, reflect)

Materials:

- ☐ Gather up as many **bottle caps** as you can around the house (metal caps, plastic caps, jar lids). Try to find bottle caps that are about the same weight and size. If you don't have enough, you could try using pennies or other coins.
- ☐ A piece of cardboard
- ☐ A piece of fabric, like a sheet or blanket
- ☐ Strong tape, like duct tape
- ☐ A target (make an X with tape, or design your own to tape down)
- ☐ Use a long table as the play space, or you can use the floor

Bottle Cap Hockey

Kid Description: Grab a grown-up and some friends for Ruff's take on table hockey! How many points can you score?

This game is for two to six players, and should be played at a wide table or on the floor. You should have one grown-up for every two to three children who are participating. If you have kids with motor issues or who otherwise cannot participate, ask them to be a coach or score keeper.



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Ask

- ★ Sit in a circle and pass around one of the bottle caps. Ask kids to use their senses to investigate it.
 - **Ask:** How does the bottle cap feel? Is it smooth or rough?
 - **Ask:** How much does the bottle cap weigh? Is it light or heavy?
- ★ Then, pass around the fabric and cardboard, or ask the kids to walk to the different surfaces.
 - **Ask:** How do each of these feel? Are they smooth or rough?
 - **Ask:** Do you think it would be easy or hard to slide a bottle cap across these?
- ★ Explain the rules of the game:
 - **Explain:** All players stand at one end of a table, and a target is at the other end. The players take turns sliding their bottle caps toward the target. Everyone will try once, and then get a second try. Players can strategically knock an opponent's

cap farther away from the target. The player whose bottle cap is closest to the target gets one point. Play twice at each surface for round one.

- For round two, the table will be covered with fabric.
- For round three, the table will be covered with cardboard.
- At the end of three rounds, the player with the most points wins.



Predict

- ★ Ask the kids which materials will allow the caps to move most easily: the tabletop or floor, the fabric, or the cardboard?
 - **Ask:** Do you think it will be easiest to slide a bottle cap across the table, the fabric, or the cardboard?
- ★ On the printout, have the kids draw their predictions.
 - **Ask:** Based on your investigation of the materials, do you predict it will be easy or hard for the bottle caps to slide on the three different surfaces? Draw your predictions on the chart.



Investigate

- ★ Line the players up at one end of a table, and place the target at the other end. With many players it might be easier to have them sit nearby, and only come to the end of the table when it's their turn.
- ★ Put all the caps in a bag or hat and ask the players to take turns reaching into the bag to pick out their caps for the round.
- ★ Play the first round on an uncovered table. Each player goes twice.
- ★ After round one, cover the table with fabric (using some tape), and play again. Each player goes twice.
- ★ After round two, cover the table with cardboard (using some tape), and play again. Each player goes twice.
- ★ At the end of the three rounds, the player who has the most points wins!

Reflect

- ★ After the game is over, clean off the table and sit together.
- ★ Ask kids to look at their predictions on the printout.
 - **Ask:** Let's reflect on the game we just played. Which surface was easiest or hardest to slide on? Table, cloth, or cardboard? Why do you think so?
 - **Ask:** What other materials could you use in this game?



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Chart

Bottle Cap Hockey



Draw how far you predict your bottle cap will go on each surface.



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Table (or floor)	Cardboard	Fabric
 Target	 Target	 Target
You	You	You



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